REMARKS

Initially, Applicant wishes to thank Examiner Truong and her supervisor for the courtesy extended to the undersigned during the personal interview on April 18, 2007. The substance of that interview is discussed below where appropriate.

By this Reply, Applicant amends claims 1-9, 12 and 15-19 and adds new claims 20-25. Claims 1-25 are therefore pending in this application, with claims 1, 9, 12, 15, 18, 19 and 23 being independent. Support for the amendments and new claims can be found throughout the specification, for example, at pages 7-12 and FIG. 1. No new matter has been introduced.

In the Office Action of February 7, 2007 ("Office Action"), claims 1-8 and 15-17 were rejected under 35 U.S.C. § 101 as allegedly non-statutory; claims 1-6, 9-16, 18, and 19 were rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 6,192,413 B1 ("*Lee*") in view of U.S. Patent No. 6,557,062 B1 ("*Shaler*"); and claims 7, 8, and 17 were rejected under 35 U.S.C. § 103(a) based on *Lee* in view of *Shaler* further in view of U.S. Patent No. 6,940,814 B1 ("*Hoffman*"). These rejections and the new claims are addressed below.

Section 101 rejection

The Office Action asserted that claims 1-8 and 15-17 are non-statutory because they recite a "propagated signal" and are not tangibly embodied. *See* Office Action, p. 2. Applicant requests withdrawal of the § 101 rejection for at least the following reasons.

Each of independent claims 1 and 15 have been amended herein to recite, *inter alia*, a "computer-readable medium having embodied thereon a computer program." As articulated in M.P.E.P. § 2106(I), "a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory" (internal citations omitted). Applicant submits that claims 1 and 15, and their respective dependent claims 2-8, 16, and 17, are directed to statutory subject matter and do not cover or preempt any §101 judicial exception. Applicant accordingly requests withdrawal of the § 101 rejection.

Section 103(a) rejection of claims 1-6, 9-16, 18 and 19

The §103(a) rejection of claims 1-6, 9-16, 18, and 19 should be withdrawn because *Lee* and *Shaler* do not support a *prima facie* case of obviousness with respect to these claims, as currently presented. To establish *prima facie* obviousness under 35 U.S.C. § 103(a), the applied references, taken alone or in combination, must teach or suggest each and every element recited in the claims. Further, there must be some suggestion or motivation to combine or modify the references in a manner producing a combination as is claimed, as well as a reasonable expectation of success. *See* M.P.E.P. § 2143.

Amended independent claim 1 recites a computer-readable medium having embodied thereon a computer program configured to manage message queues used for transferring messages from a first system executing a first software application of an enterprise information technology system to a second system executing a second software application of the enterprise information technology system. The claimed medium comprises one or more code segments configured to receive an indication of an object type associated with a message independently of the message and identify a message queue used for the object type. The one or mode code segments are configured to perform a registration-related action on the identified message queue in response to the indication. The registration-related action affects processing by middleware of messages stored in the identified queue and messages destined to the identified queue. As discussed in the interview, *Lee* and *Shaler*, taken alone or in combination, fail to disclose or suggest each and every element recited in claim 1.

Lee relates to routing communications between computer processes. *See* Abstract; col. 2, lines 25-31. *Lee* does not disclose or suggest at least a program to receive an indication of an object type associated with a message "independently of the message" and identify a message queue used for the object type, as recited in claim 1. In *Lee*'s system, messages are routed to selected process queues. The process queue for a given message is obtained from a router table based on a message type designation, which is included in the message. *See* col. 2, lines 31-43. Even if *Lee*'s message type designation were considered an "object type associated with a message," *Lee*'s message type designation is not received "independently of the message," as

claimed. Instead, *Lee*'s system selects a queue for a message based on a type designation that is included in the message.

As noted in the Office Action, *Lee* discloses writing a LAN message 54 to an identified queue. *Lee* states that "in the example of FIG. 2A, since the message type is a transfer data (TD) message, the router table 44 of FIG. 3A indicates that it is the "U" queue identifier which is the selected destination for incoming message 54." Col. 6, lines 50-60. This functionality in *Lee* does not disclose or suggest a program to receive an indication of an object type associated with a message "independently of the message" and identify a message queue used for the object type, as recited in claim 1. In *Lee*'s system, the "TD" type associated with the LAN message is included in the LAN message. *Lee*'s system does not receive an indication of the "TD" type associated with a LAN message independently of the LAN message. For example, *Lee*'s system is not seen as operable to receive an indication of the type from a user of a queue management system.

Lee's system further fails to disclose or suggest a program to "perform a registration-related action on the identified message queue in response to the indication, the registration-related action affecting processing by middleware of messages stored in the identified queue and messages destined to the identified queue," as recited in claim 1. Indeed, the Office Action acknowledges that *Lee* fails to disclose performing a registration related action on message storage. *See* Office Action, p. 3.

Shaler fails to cure *Lee*'s deficiencies. *Shaler* relates to controlling Radio Frequency (RF) devices. *See* Abstract. *Shaler* does not disclose or suggest at least a program to receive an indication of an object type associated with a message independently of the message and identify a message queue used for the object type, as recited in claim 1. While *Shaler* describes sending and receiving messages, the reference nowhere discloses or suggests receiving an indication of an object type associated with a message independently of the message and identifying a message queue used for the object type, as recited in claim 1.

Shaler further fails to disclose or suggest a program to "perform a registration-related action on the identified message queue in response to the indication, where the registration-related action affects processing by middleware of messages stored in the identified queue and messages destined to the identified queue," as claimed. In *Shaler*'s system, each RF device 104

is connected to an RF control bus 106 via an RF interface 114 and a bus slave 110. *See* col. 3, lines 2-6; Fig. 1. The RF devices communicate with the bus slaves 110 using the RF interfaces 114. *See* col. 4, lines 30-39. Messages transmitted over the RF control bus include a 3-bit register enable. *See* Fig. 6, bus slot 604; col. 7, line 65 – col. 8, line 5. As noted in the Office Action, this register enable indicates to the addressed bus slaves 110 which register select signals within RF interface 114 are to be activated for read or write commands. *See* col. 8, lines 24-29; Office Action, p. 3. As also noted in the Office Action, if an addressed bus slave 110 detects a parity error on the resource address of a message, then the bus slave ceases processing of the message and sets an error flag in an error register. *See* col. 10, line 64 – col. 11, line 7; Office Action, pp. 3-4.

Shaler's functionality for indicating certain register select signals to activate for read and write commands does not constitute the "registration-related action" subject matter of claim 1. Indeed, there is no indication in *Shaler* that selecting or activating the register select signals affects processing by middleware of messages stored in an identified message queue and messages destined to the identified message queue, as required by claim 1. Further, the selection and activation of the register select signals is not performed "in response" to an indication of an object type associated with a message received independently of the message, as claimed.

Likewise, *Shaler*'s functionality for ceasing processing of a message fails to disclose or suggest the "registration-related action" subject matter of claim 1. *Shaler*'s system does not stop the processing of a message in response to an indication of an object type associated with the message received independently of the message, as required by claim 1. Instead, *Shaler*'s system merely stops processing when a parity error is detected. *See* col. 10, lines 64-67. Moreover, there is no indication in *Shaler* that processing is ceased with respect to messages stored in an identified message queue and messages destined to the identified message queue, as claimed. *Shaler* merely describes that a bus slave stops processing a given message in which a parity error is detected and sets a parity error flag in an error register.

For at least the foregoing reasons, neither *Lee* nor *Shaler*, nor any combination thereof, discloses or suggests each and every element recited in claim 1. These references therefore fail to support a *prima facie* conclusion of obviousness with respect to this pending claim.

In addition, the requisite motivation to modify or combine *Lee* and *Shaler* is lacking. The Office Action alleges that a skilled artisan would have modified the teaching of *Lee* and *Shaler* "because Shaler's . . . [performance] of a registration-related action on the message storage would improve the teaching of Lee's system by providing a minimum number of differential interconnects thereby minimizing a significant source of electro-magnetic coupling." Office Action, p. 3. This statement in the Office Action is not supported by evidence on the record and does not show that a skilled artisan would have modified or combined the references as alleged or in a manner resulting in Applicant's current claimed combination. For example, the Office Action fails to explain how *Lee*'s inter-process communications routing system would be modified to include *Shaler*'s functionality for activating certain register select signals within an RF interface. Furthermore, the Office Action fails to identify which differential interconnects would be minimized to reduce electro-magnetic coupling. In addition, the Office Action offers no explanation as to how the supposed combination would reduce electro-magnetic coupling or even that a skilled artisan considering *Lee* would be concerned with such coupling.

As M.P.E.P. § 2143.01 makes clear, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination" (citations omitted). In this case, the references do not suggest the desirability of a combination as is recited in the claims. Applicant further submits that realization of Applicant's claims using the applied references would require impermissible hindsight reliance on teachings of the present application to piece together isolated disclosures of the cited references.

The Office Action also fails to show a reasonable expectation of success in modifying *Lee*'s inter-process communications routing system to include *Shaler*'s RF control functionality as alleged. The Office Action fails to show that skilled artisans would have understood how *Lee*'s system would need to be modified to accommodate *Shaler*'s RF control functionality or that *Lee*'s system could be so modified without changing its principle of operation. For example, the Examiner has not shown that *Lee*'s system could accommodate *Shaler*'s RF environment and message format.

For at least the foregoing reasons, *Lee* and *Shaler* fail to support a case for *prima facie* obviousness with respect to claim 1. Applicant therefore requests withdrawal of the §103(a)

rejection and the timely allowance of this claim. Applicant requests withdrawal of the rejection and the timely allowance of dependent claims 2-8 as well, for at least reasons similar to those presented above in connection with claim 1.

Amended independent claims 9 and 12, although different in scope from claim 1 and each other, recite subject matter similar to that in claim 1 discussed above. In particular, claim 9 recites receiving an indication of an object type associated with a message independently of the message and identifying a message queue used for the object type. Claim 9 further recites performing a registration-related action on the identified message queue in response to the indication, the registration-related action affecting processing by middleware of messages stored in the identified queue and messages destined to the identified queue.

Independent claim 12 recites a system for managing message queues used for transferring messages from a first computer system to a second computer system. The processor of the second computer system is configured to receive an indication of an object type associated with a message independently of the message and identify a message queue used for the object type. The processor is further configured to perform a registration-related action on the identified message queue in response to the indication, the registration-related action affecting processing by middleware of messages stored in the identified queue and messages destined to the identified queue.

The § 103(a) rejection of claims 9 and 12 based on *Lee* and *Shaler* should be withdrawn for at least reasons similar to those presented above in connection with claim 1. The § 103(a) rejection of dependent claims 10, 11, 13, and 14 should be withdrawn as well, at least by virtue of their respective dependence upon claims 9 and 12. Applicant accordingly requests withdrawal of the §103(a) rejection and the timely allowance of claims 9-14.

Amended independent claim 15 recites a computer-readable medium having embodied thereon a computer program configured to manage message queues used for transferring messages from a first system executing a first software application to a second system executing a second software application. The medium comprises a generic module with one or more code segments configured to receive an indication of an object type associated with a message independently of the message and receive an indication of registration-related action to be taken. The generic module is further configured with one or more code segments to initiate a specific

function for identifying a message queue used for the indicated object type and returning a queue name of the message queue used for the indicated object type. When the indication of registration-related action to be taken is to register, the message queue having the returned queue name is registered such that middleware processes messages in the registered message queue. When the indication of registration-related action to be taken is to de-register, the message queue having the returned queue name is de-registered such that middleware ceases processing of messages in the de-registered message queue.

Lee and *Shaler*, taken alone or in combination, fail to disclose or suggest each and every element recited in claim 15. While *Lee* describes routing messages to selected queues, the reference does not disclose or suggest a generic module configured to receive an indication of an object type associated with a message "independently of the message" and initiate a specific function for identifying a message queue used for the indicated object type, as claimed. As discussed above in connection with claim 1, *Lee*'s system selects a queue for a message based on a type designation included the message. In addition, *Lee* does not disclose or suggest the registering and de-registering features of claim 15. Indeed, the Office Action acknowledges this deficiency in *Lee*. *See* Office Action at 4.

Shaler, like *Lee*, also fails to disclose or suggest a generic module configured to receive an indication of an object type associated with a message "independently of the message" and initiate a specific function for identifying a message queue used for the indicated object type, as claimed. *Shaler*, albeit describing sending and receiving messages, nowhere discloses or suggests receiving an indication of an object type associated with a message independently of the message and initiating a specific function for identifying a message queue for the object type, as recited in claim 15.

Shaler further fails to disclose the registering and de-registering features of claim 15. *Shaler*'s functionality for indicating certain register select signals to activate within an RF interface does not constitute registering a message queue having the returned queue name such that middleware processes messages in the registered message queue or de-registering the message queue having the returned queue name such that middleware ceases processing of messages in the de-registered message queue, as recited in claim 15. Likewise, *Shaler*'s functionality for ceasing processing of a message fails to disclose or suggest the registering or

de-registering subject matter of claim 15. *Shaler*'s system does not stop the processing of a message when a received indication of registration-related action to be taken is to de-register (or register). *Shaler*'s system merely stops processing when a parity error is detected. Moreover, there is no indication in *Shaler* of registering a message queue having the returned queue name such that middleware processes messages in the registered message queue or de-registering the message queue having the returned queue name such that middleware ceases processing of messages in the de-registered message queue, as claimed.

For at least the foregoing reasons, neither *Lee* nor *Shaler*, nor any combination thereof, discloses or suggests each and every element recited in claim 15. Moreover, as discussed above in connection with claim 1, the requisite motivation to modify or combine *Lee* and *Shaler* is lacking. As also discussed above, a reasonable expectation of success in such combination or modification is lacking with respect to these references. *Lee* and *Shaler* therefore fail to support a *prima facie* case of obviousness with respect to claim 15. Applicant accordingly requests withdrawal of the §103(a) rejection and the timely allowance of independent claim 15 and its dependent claim 16.

Amended independent claims 18 and 19, although different in scope from claim 15 and each other, recite subject matter similar to that in claim 15 discussed above. In particular, claim 18 recites receiving an indication of an object type associated with a message independently of the message and receiving an indication of registration-related action to be taken. Claim 18 further recites initiating a specific function for identifying a message queue used for the indicated object type and returning a queue name of the message queue used for the indicated object type. Claim 18 recites registering the message queue having the returned queue name such that middleware processes messages in the registered message queue, when the indication of registration-related action to be taken is to register. Claim 18 recites de-registering the message queue having the returned queue name such that middleware ceases processing of messages in the de-registered message queue, when the indication of registration-related action to be taken is to de-register.

Independent claim 19 recites a system for managing message queues used for transferring messages from a first computer system to a second computer system. The processor of the second computer system is configured to receive an indication of an object type associated with a

message independently of the message and receive an indication of registration-related action to be taken. The processor is further configured to initiate a specific function for identifying a message queue used for the indicated object type and returning a queue name of the message queue used for the indicated object type. The processor is configured to register the message queue having the returned queue name such that middleware processes messages in the registered message queue, when the indication of registration-related action to be taken is to register. The processor is configured to de-register the message queue having the returned queue name such that middleware ceases processing of messages in the de-registered message queue, when the indication of registration-related action to be taken is to de-register.

The § 103(a) rejection of claims 18 and 19 based on *Lee* and *Shaler* should be withdrawn for at least reasons similar to those presented above in connection with claim 15. Applicant accordingly requests withdrawal of the §103(a) rejection and the timely allowance of these independent claims.

Section 103(a) rejection of claims 7, 8, and 17

Claims 7 and 8 depend upon claim 1, and claim 17 depends upon claim 15. As discussed above, *Lee* and *Shaler* fail to disclose or suggest each and every feature of claim 1 or claim 15. *Hoffman*, which was applied to claims 7, 8 and 17, relates to forwarding packets using multi-layer information. Col. 1, lines 9-15. *Hoffman* fails to cure the deficiencies of *Lee* and *Shaler* with respect to independent claims 1 and 15. Accordingly, *Lee*, *Shaler*, and *Hoffman*, taken alone or in any combination, fail to disclose or suggest each and every feature of claim 1 or claim 15 or their respective dependent claims 7, 8 and 17. Furthermore, for at least reasons similar to those discussed above in connection with claim 1, the requisite motivation and reasonable expectation of success are lacking with respect to claims 7, 8, and 17.

For at least the foregoing reasons, *Lee*, *Shaler*, and *Hoffman* fail to support a case for *prima facie* obviousness with respect to claims 7, 8, and 17. Applicant therefore requests withdrawal of the §103(a) rejection and the timely allowance of these pending claims.

New claims 20-25

Each of new claims 20-22 depends upon claim 1 or claim 18 and is similarly not anticipated or rendered obvious by the applied art. Applicant submits that the applied art further fails to disclose or suggest at least some of the additional features recited in these new dependent claims. Applicant therefore request the timely allowance of new claims 20-22.

New independent claim 23 recites receiving an indication of an object type associated with a message independently of the message and selecting, based on the object type, a function module for identifying a plurality of message queues used for the object type. New claim 23 further recites performing a registration-related action on each of the identified message queues in response to the indication. The registration-related actions affect processing by middleware of messages stored in the identified message queues and messages destined to the identified message queues. Applicant submits that neither *Lee*, *Shaler*, nor *Hoffman*, nor any combination thereof, discloses or suggests each and every feature of new claim 23. New claims 24 and 25 depend upon claim 23 and are similarly distinguishable from the applied art. Applicant thus requests the timely allowance of new claims 23-25.

Conclusion

Applicant requests the Examiner's reconsideration of the application in view of the foregoing and the timely allowance of pending claims 1-25.

It is believed that all pending issues in the outstanding Office Action have been addressed by this paper. The Office Action, however, contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether or not any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization in the Office Action. In addition, there may be reasons for patentability of any or all pending or other claims that have not been expressed above.

If there are any questions regarding this paper or the application generally, Applicant would appreciate a telephone call to the undersigned since this may expedite prosecution of the application.

Please grant any extensions of time required to enter this paper and apply any required charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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